Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
Application of BellSouth Corporation, Pursuant to Section 271 of the Telecommunications Act of 1996 To Provide In-Region, InterLATA Services In Alabama, Kentucky, Mississippi, North Carolina and South Carolina	)	**WC Docket No. 02-150**

SUPPLEMENTAL REPLY DECLARATION OF CATHERINE E. PITTS ON BEHALF OF AT&T CORP.

I. QUALIFICATIONS

1. My name is Catherine E. Pitts (formerly Petzinger). I am the same Catherine E. Pitts that filed a Declaration in this proceeding on July 11, 2002 and a Reply Declaration on August 5, 2002. My qualifications are set forth in my July 11, 2002 Declaration.

II. SUMMARY AND PURPOSE OF TESTIMONY

2. This supplemental reply declaration responds to points raised in the Reply Affidavit of D. Daonne Caldwell ("Caldwell Rep.") and the Joint Reply Affidavit of John A. Ruscilli and Cynthia K. Cox ("Ruscilli/Cox Rep."). In its reply testimony, BellSouth seeks to justify its feature cost methodology, but that testimony merely demonstrates that its attempt to develop an "average" cost for features does not yield cost-based rates. BellSouth's justification for the 55% take rate used in computing the features component of the port charge is both unsubstantiated and based on

questionable data that, when combined with its defective averaging methodology, yields rates that are in no way cost based. BellSouth's comparisons of its feature rates with those of New York are inapposite given the different cost methodologies used by Verizon and BellSouth and, when adjusted, show that BellSouth's feature hardware costs are vastly overstated. BellSouth inappropriately relies on its embedded base in calculating switching investment, in clear violation of TELRIC principles, overstating the percentage of growth/add-on switches and failing to use an appropriate level of new or replacement switches in determining switching investment. Finally, BellSouth argues that getting started costs are traffic-sensitive, even though its own workpapers and switching data show that modern digital switches exhaust on ports and not as a result of call capacity.

III. FEATURE COSTS

3. Ms. Caldwell attempts to support the deficient "averaging" methodology used in its feature cost development by claiming that the 56 features reviewed reflects the mix of features that use different resources in the switch. Caldwell Rep. ¶ 107. This argument, however, totally ignores my principal objection that a mix of features reflecting different types of functions used in a switch neither bears any relationship to the mix of features that actually are in the switch or to incremental costing principles.

4. Ms. Caldwell acknowledges the various issues in developing features costs (*id.* ¶¶ 102-04), but her attempt to justify BellSouth's feature cost methodology and specifically its hardware costs does not withstand scrutiny. Ms. Caldwell concedes that BellSouth's methodology does not develop actual feature costs; instead, the SST model BellSouth uses "develops the cost of a composite feature that is

an average, i.e., this feature never really exists in the switch." *Id.* ¶ 109. As I described in my initial and reply declarations, however, averaging the costs of different hardware components together, without reflecting the relative weightings of the different components, is inappropriate. Recent information from the North Carolina proceeding confirms that averaging the costs of highly used and little used feature components with a simple arithmetic average is fundamentally flawed. When asked how many three-port conference circuits and six-port conference circuits, BellSouth responded with the following counts for all switches in North Carolina[1]:

Three port conference circuits – 4,657
Six port conference circuits – 1,190

It is clearly inappropriate to simply average the cost of a three-port circuit with the much higher cost of a six-port circuit in an attempt to reflect the average hardware in a switch, but that is exactly what BellSouth has done.[2] Even if BellSouth's estimation of usage of these circuits were correct (and they are not), multiplying the usages by the inappropriately averaged cost per circuit would still produce a bogus result.

5. Regarding the usage inputs, Ms. Caldwell claims that 4.5 calls are not assumed in the feature cost methodology and argues that the appropriate standard is feature attempts. Caldwell Rep. ¶¶ 111-12. This is hair-splitting. The examples that Ms.

[1] BellSouth Response to ATT/WorldCom's 1st Interrogatories, Item No. 29 in North Carolina UNE proceeding, Docket No. P-100, Sub 133d.

[2] BellSouth's August 8, 2002 ex parte includes an attachment showing the purported cost of a 3-port and 6-port conference circuit. *See* Letter from Sean A. Lev to Marlene H. Dortch, Secretary, FCC (August 8, 2002) (proprietary). I do not necessarily agree with the costs, but the relationship between the two is reasonable. The attachment labeled SST-Usage Hardware special study shows that a three-port circuit is *****BEGIN CONFIDENTIAL*****$16.35 (line 59) and a 6-port circuit is $32.70 (line 58).*****END CONFIDENTIAL*****

Caldwell provides (three-way calling, speed dialing, and terminating features, such as call waiting, hunting, and CLASS features such as Caller ID) all involve calls, and it is a rare occurrence indeed when a feature activation or deactivation occurs without a call in progress.

6. Ms. Caldwell argues that it is "irrelevant whether the feature is deployed on a per line, per trunk group, or per attendant basis." Caldwell Rep. ¶ 113. But she does not -- and cannot -- explain how these disparate functions are placed on a common platform that takes into account the costs and usage of these incompatible feature characteristics. This is fruit salad ratemaking, not TELRIC.

7. BellSouth has provided updated Georgia usage data that purports to show that the costs for the hardware portion of the feature cost would increase. Caldwell Rep. ¶ 114. There are two problems with BellSouth's data and conclusion. First, the usage data are unsubstantiated and have the same credibility as BellSouth's data that estimated usage levels of features that had no customers. *See* Pitts Rep. Dec. ¶¶ 3-4. Second, BellSouth concludes that its hardware cost would increase because of increases in the usage of features that use hardware. But BellSouth has never demonstrated that its feature hardware costs are cost-based, and these costs bear no relationship to the amount and types of equipment that provide features in a switch. Multiplying a bogus hardware cost number by a questionable usage input (even if updated) does not validate BellSouth's feature cost at all.[3]

[3] Ms. Caldwell's claim (Caldwell Rep. ¶ 121) that my declaration in this case is inconsistent with my prior state testimony on BellSouth's SST model is wrong. She ignores my prior criticisms of BellSouth's SST model and its deficiencies and the basic and consistent criticism that I made in both the Florida and Georgia proceedings that the SST model inappropriately seeks to average inappropriate and disparate feature inputs.

8. BellSouth's seeks to justify its defective feature cost methodology by arguing that BellSouth cannot know what features the CLECs will order. Caldwell Rep. ¶ 113. If CLECs were to order switch features that actually did cause BellSouth to incur incremental feature investment, then BellSouth could request a rate review. It is premature and irrelevant to guesstimate how CLECs will purchase features in the future.

9. BellSouth's explanation for its 55% take rate is unsubstantiated and questionable. According to BellSouth, *see* Ruscilli/Cox Rep. at ¶ 33, Proprietary Ex JAR/CKC-2, the 55% take rate is based on the number of customers that have one or more features on their line. BellSouth's feature study assumes that each customer has approximately 4 features per line. The average number of features per line for lines with features as listed on Proprietary Ex. JAR/CKC-2 is ***BEGIN CONFIDENTIAL*** 5.98 for residential customers ***END CONFIDENTIAL***, which is extremely high and totally unsubstantiated. The only way that BellSouth can have such a high number of

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The summary of my Florida testimony explicitly stated the fundamental problem with the SST model:

> The Hardware Study uses incorrect investments, incorrect capacities and utilization adjustments that produce inflated hardware costs for features.
>
> The entire conceptual methodology of averaging disparate feature inputs together in an attempt to force the costs to fit a theoretical feature category, and making broad assumptions that are used as critical inputs is flawed.

In fact, as Ms. Caldwell acknowledges, based on my criticisms of the SST Model, Caldwell Rep. ¶ 101, the Florida Commission ordered BellSouth to make certain adjustments to the SST model, but these adjustments did not address the fundamental problems with the SST model's averaging methodology. In Georgia, BellSouth filed a "corrected" version of the SST model with some adjustments to hardware capacities and costs, but these few adjustments did nothing to correct the underlying averaging problems and other model deficiencies. In my view, even after the Georgia and Florida proceedings, BellSouth's hardware capacities assume some level of average utilization that has not adequately identified or explained.

features per line is through bundling of several features, but in such a case, the bundling means that actual usage of the features is significantly less as customers receive features in the bundle in which they have no interest. As BellSouth's feature study is based on feature usage that cause increases in costs, BellSouth cannot simply cite to its unsubstantiated number of features per line but must demonstrate that features usage is consistent with the feature costs. Given the problems with BellSouth's averaging methodology as described above and in my prior declarations, there is no way BellSouth can make that showing.

IV. BELLSOUTH FEATURE COST COMPARISON TO NEW YORK FEATURE RATES

10. BellSouth attempts to justify its feature rates by reference to rates in New York. Caldwell Rep. ¶¶ 122-26. This effort compares apples and oranges and is inappropriate given that New York and Georgia used different cost studies and different assumptions. BellSouth's analysis involved two separate comparisons: one of them purports to compare the portion of BellSouth feature costs that is not related to hardware to a differential cost in the New York UNE minute of use rate and its terminating call cost without features reciprocal compensation rate; the second comparison is between BellSouth's portion of its feature costs that are purportedly caused by hardware and the Verizon New York feature port additive rate elements. BellSouth cites to the New York's reciprocal compensation "terminating call cost without features" rate and claims that the difference between this rate and the New York UNE MOU rate somehow reflects the incremental costs for features. But Verizon's reciprocal compensation "terminating

call cost without features" rate is a misnomer[4] and was developed basically to lower Verizon's reciprocal compensation obligations. It is also unclear how Verizon developed its terminating call cost without features numbers in New York because Verizon used a different model than it used for developing other switch-related rate elements. Based on Verizon's testimony and cost study calculations in Pennsylvania, Maryland, and Virginia, however, Verizon develops its reciprocal compensation terminating call cost by removing all getting started costs and all right to use fees from the terminating call cost. BellSouth, on the other hand, includes its getting started costs in its development of features costs and in the determination of both originating and terminating costs. In light of this different treatment of getting started costs, it is inappropriate to compare BellSouth's non-hardware feature costs to the difference between originating and terminating usages rate in New York.

11. BellSouth also claims that its costs included in the hardware portion of its feature port additives are equivalent to the New York feature port additive rates. Caldwell Rep. ¶¶ 125-26. This comparison is also inappropriate due to Verizon's use of a different methodology to compute its feature costs and the different cost structures in New York and the BellSouth states. Even if there were some basis for making a comparison, BellSouth simply adds up a group of features for a total feature cost and compares to figure to its hardware portion of the feature cost. This is a misleading comparison because it assumes that every feature's cost will contribute equally to a total feature cost, a flawed approach that appears throughout BellSouth's

[4] Even BellSouth mentions features that are associated with terminating calls, such as multi-line hunting, call waiting, etc. Therefore BellSouth's assumption that terminating calls do not involve features is false.

methodology. Even though a direct comparison is not appropriate, the only valid basis for comparison is to use the New York rates in conjunction with the penetration ratios for the features and then compute the average hardware-related feature cost. This comparison produces the following results:

NY Features	NY Monthly Rate	NC Penetration	Total Cost
Three Way Conference[5]	$.88	19%	$0.04
Anonymous Call Rejection	$.06	0%	$0.00
Automatic Call Return	$.33	10%	$0.03
Calling Number and Name Delivery	$.17	30%	$0.05
Custom Ringing	$.52	0%	$0.00
Automatic Call Back	$.33	0%	$0.00
Distinctive Ringing	$.03	4%	$0.00
Avg. feature cost per line[6]			$0.13

The $0.13 per every line for features compares to $1.22 per line for BellSouth's hardware-related features.[7] When the appropriate comparison of feature costs is made, BellSouth's feature costs are far in excess of New York's feature port additives.

V. SWITCH VENDOR CONTRACTS

12. BellSouth claims that I ignored the fact that "equivalent lines" in the switch contracts are not the same as actual lines. Caldwell Rep. at ¶ 69. That is not correct. Equivalent lines are simply a measure that switch vendors use to determine the cost of the different types of lines (analog, digital, etc.) and explicitly include the costs

[5] I have replaced the six-way calling feature in BellSouth's table with three-way calling because six-way calling is not included in BellSouth's list of 56 feature penetrations.

[6] This would be the average feature cost for every line, not just lines with features.

[7] Caldwell Rep. at ¶¶ 125-126. $1.22 is BellSouth's estimate of feature hardware costs in South Carolina. Even if the feature penetrations were double North Carolina's penetrations, the comparison proves the inappropriately high cost BellSouth seeks to charge for features in North Carolina and is charging in Kentucky and South Carolina. The equivalent hardware cost in North Carolina is $1.75 (74% of the proposed $2.38 is

for ***BEGIN CONFIDENTIAL***feature-specific hardware and trunking ***END CONFIDENTIAL*** to carry the line originated traffic. As I explained in great detail in the recent Georgia UNE proceeding, the determination of the number of equivalent lines per switch was calculated by BellSouth itself in its cost study workpapers, thereby allowing parties to multiply the "equivalent line" contract price by BellSouth's own calculation of the number of equivalent lines to produce a total price per switch.

13. BellSouth vacillates between claims that its switch vendor contracts are too complicated to use to determine switch prices and that the contracts do not have enough detail.[8] The contracts are not unduly complicated – in fact, these contract prices are straightforward, with detailed descriptions of how to calculate

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associated with feature hardware).

[8] *See* BellSouth Reply at 37. Ms. Caldwell also argues that I cannot be an expert on BellSouth's contracts because I "admit [I] did not fully research them." Caldwell Rep. at ¶ 73. Her evidence is a quotation from a deposition in which I stated that I had not reviewed the entire contract. Relegated to a footnote is a reference to the actual Georgia hearing. Ms. Caldwell neglected to set forth the quotation from that hearing in which I stated unequivocally that I had reviewed the entire BellSouth Georgia contract after the deposition: "I have since reviewed the entire contracts, and my conclusions remain the same." In response to a subsequent question about the timing of my review, I stated: "I went back and made sure that there wasn't something in there that I had, you know, missed." Just to make the issue even clearer, on redirect, I was asked if I had reviewed BellSouth's contracts, and I stated, "Yes, I reviewed even ones that I had reviewed before, just to make sure I didn't miss anything." When asked if I had reviewed "every single contract that BellSouth provided to [AT&T]", I responded, "Yes, that's correct." Ms. Caldwell had the truth available to her; indeed, she appended the Georgia transcript to her testimony as Caldwell Exh. DDC-18, at pages 1587-88, 1612, but she was apparently content to claim that I had not reviewed the BellSouth contracts.

One problem has been that BellSouth makes reviewing its switch vendor contracts extremely difficult. Unlike SBC and Verizon, BellSouth has refused to provide open access to its contracts. Originally, the contracts could be viewed only at BellSouth's offices in Atlanta, but now BellSouth has apparently relaxed that policy. BellSouth has in the past refused to allow any copies of the contracts to be made, making review an extremely cumbersome and difficult process.

"equivalent lines." Indeed, Ms. Caldwell includes a description of how to calculate equivalent lines in her proprietary Exhibit DDC-4. At first glance, these instructions appear complicated, but once the acronyms and abbreviations are understood, a switch engineer would have little problem calculating the cost of a switch using this equivalent line calculation. BellSouth's claim that there is not enough detail in the contracts to determine a switch price is naïve at best. BellSouth's purchases of end office switches are governed by these contracts, and BellSouth surely is not claiming that it cannot determine the total price it will pay for switches from its own negotiated contracts and will know the price only after the fact.

14. BellSouth's alternative to use of its contract information was to review a small number of switch purchases in 1998. BellSouth's claim that these purchases do not represent a "sample" is misleading. Caldwell Rep. ¶ 74. It may be true that the entire population of switch purchases for 1998 was collected, but the price information is then applied to all switches in BellSouth's territory, making the limited number of switch purchase prices a very small sample used to reflect the price of all switches in BellSouth. As I described in my initial declaration, when the switch price per line BellSouth calculates from the sample purchase data is applied to all switches, the total price exceeded what BellSouth itself calculated in its workpapers from its contract price that does take into account "equivalent lines." Pitts Dec. ¶ 6. A small number of historical switch purchases do not match the switch sizes, number and types of remote switches, or the forward-looking switch components assumed in BellSouth's switch cost study.

VI. MELDING

15. BellSouth claims that my proposal to use an appropriate melding of new and growth/add-on switches in developing an appropriate long run, net present value for the switch discount involves "mathematical gyrations." Caldwell Rep. ¶ 75. More specifically, BellSouth complains that the method is deficient because it requires assumptions about the life of the switch, the cost of capital and an annual growth rate. Such criticism is unfounded. Each of these assumptions is a standard, required assumption in cost studies, including BellSouth's.[9] In any event, BellSouth's reliance on a historical snapshot to develop the ratio of new versus growth investment, using its actual purchases in 1998, is totally contrary to TELRIC's requirement that embedded plant be ignored and that new switches be used in the existing wire center locations. BellSouth's reliance on the embedded base is a clear TELRIC error that inappropriately relies too heavily on growth/add-on switches rather than new switches as required by TELRIC principles. My proposal goes further and appropriately takes into account the growth in lines over the life of the switch. BellSouth's approach fails to take account of the requirement under TELRIC that new switches (and the appropriate new switch discounts) be modeled in determining the long run switch investment.[10]

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[9] BellSouth also complains that my annual growth factor is unsubstantiated. BellSouth has obviously ignored my explanation that the method of calculating the meld of new and growth lines was a proposal that allowed the adjustment of the assumptions to correspond to specific circumstances. Pitts Dec. ¶ 8 n.8.

[10] The same problem exists with BellSouth's trunking assumptions. Caldwell Rep. ¶¶ 78-81. BellSouth relies on the claim that only offices that grow by a certain percentage are eligible for the DNUS, which is the efficient, forward-looking trunking equipment for the vast majority of end office host and standalone switches and tandem switches. BellSouth's growth assumption may be appropriate when determining add-on equipment for the embedded network, but TELRIC principles reject the use of the embedded network in modeling costs. If a new switch is being used, as required by

16. Ms. Caldwell's musings (Caldwell Rep. ¶ 75) about what the switch vendor contract prices would be if the mix of new and growth purchases were different are simply conjecture and irrelevant. These conjectures are also misplaced. Indeed, Ms. Caldwell noted in her testimony that Nortel has at times offered switch contracts with prices that do not differentiate between new and growth equipment. *Id.* at ¶ 67. Ms. Caldwell ignores the underlying concept that switch prices have been declining for both new and growth switching equipment and that legal contracts itemizing the current price of switches are the best estimate of forward-looking switch costs.

VII. MISALLOCATION OF FIXED COSTS

17. Ms. Caldwell attempts to justify BellSouth's allocation of fixed getting started costs to usage and feature elements by claiming that Telcordia's model has *always* had a report that fully allocates the getting started costs to processor capacity. Caldwell Rep. ¶ 97. The Telcordia model report that does allocate fixed costs was designed in the 1970s when analog switches were highly processor-constrained and long before TELRIC principles were defined.[11] The Telcordia model does not have any output reports that are identified as TELRIC or that report the cost of unbundled network elements. BellSouth has complete control over how it uses the outputs from the Telcordia models in its SST model. The SST model is where BellSouth assembles the various SCIS/MO investments and other costs to build the cost of unbundled network

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TELRIC, BellSouth's specific guideline is irrelevant, as the total current traffic would determine the deployment of the DNUS.

[11] Telcordia's model has multiple reports, some of which do *not* allocate fixed costs to processor capacity, but report it as a total fixed cost.

elements. Thus, BellSouth cannot rely on Telcordia as justification for its flawed cost methodology.

18. Ms. Caldwell's extensive quoting of switch manufacturer documents that provide call capacities for the central process (related to getting started costs) and the Lucent switch module (related to EPHC costs) misses the entire cost-causation principle at issue. Even if the switch manufacturer quotes its switch capacities in terms of calls or processing realtime, the critical issue is whether BellSouth's switches will exhaust this quoted capacity limitation.[12] If a component, even one with stated capacities, is never expected to exhaust, the cost is "fixed" and should not be recovered via a traffic-sensitive rate element as BellSouth does with the getting started cost. The Lucent documentation quoted by Ms. Caldwell describes the switch manufacturer's capacity ratings of its switch modules in terms of processor realtime (and other usage-related capacities), but again, it is not the theoretical engineering capacity limitations that are relevant. A review of BellSouth's SCIS/MO outputs demonstrate that every switch has substantial excess switch module processor capacity because the switch module

[12] Ms. Caldwell's claim that there are no field reports regarding its switch processors' utilizations (Caldwell Rep. at ¶ 88) is curious and incorrect. Switches produce traffic and maintenance reports that show the level of utilization for the processors. In addition, BellSouth's switch utilization estimation techniques are highly questionable. When BellSouth attempts to calculate processor utilizations using assumptions about current traffic and annual growth, many switches showed a negative utilization at the time the switch was cutover. *See* Response to ATT/WorldCom's 1st Interrogatories, in North Carolina UNE proceeding, Docket No. P-100, Sub. 133d, Item No. 24, Attachment No. 1, Step 5 in which BellSouth described its calculations as follows: "Subtracting the results of step 4 from the results of step 3 establishes the % Util. At Service Date of the Switch. It must be noted that in most cases this calculation resulted in a number less than 0. This is impossible since all the switches processed calls when they were cut."

exhausted on the number of ports long before the call or traffic capacities could be utilized.[13]

19. Ms. Caldwell's statements (Caldwell Rep. ¶ 91) that ports do not limit the switch module processor (SMPU) is correct, but misleading. The cost in question here is the subcategory of costs that SCIS/MO reports as EPHC costs and is not just the cost of the switch module processor, but is essentially the common equipment in the switch module itself. The number of ports exhaust the capacity of the switch module before the SMPU can be fully utilized. Therefore, true cost causation is ports, as Ms. Caldwell admits at paragraph 91 of her reply affidavit, because the number of switch modules required is driven by ports, not by calls or other usage.

VIII. CONCLUSION

20. BellSouth's reply testimony does not rescue BellSouth's flawed features cost methodology or address the clear TELRIC errors in BellSouth's determination of switch cost investment. For these reasons, BellSouth fails to meet the requirements of check list item 2 of Section 271.

[13] The SCIS/MO reports identify this excess capacity and include it as a subcomponent of the total port cost because the exhaustion of the ports capacity on the switch module caused the excess capacity cost.

I declare under penalty of perjury that the facts stated herein are true and correct, to the best of my knowledge, information and belief.

/s/ Catherine E. Pitts
Catherine E. Pitts

August 22, 2002